



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,642	12/05/2003	Michael Redeker	P56987	9637
7590 Robert E. Bushnell Suite 300 1522 K Street, N.W. Washington, DC 20005		07/27/2007	EXAMINER THOMPSON, CAMIE S	
			ART UNIT 1774	PAPER NUMBER
			MAIL DATE 07/27/2007	
			DELIVERY MODE PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/727,642	REDECKER, MICHAEL
	Examiner	Art Unit
	Camie S. Thompson	1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on Amendment filed April 25, 2007.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,4-15,17-20 and 22-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 12-13 and 18-20 is/are allowed.
- 6) Claim(s) 1, 4-11, 14-15, 17, 22-24 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

1. Applicant's amendment and accompanying remarks filed April 25, 2007 are acknowledged.
2. Examiner acknowledges amended claims 1, 7, 15 and 22.
3. The rejection of claims 1, 4-11, 14-15, 17 and 22-24 under 35 U.S.C. 103(a) as being unpatentable over Ichimura et al., U.S. Patent Number 6,337,167 in view of Smith et al., U.S. Pre Grant Publication Number 2004/0263045 is overcome by applicant's amendment.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

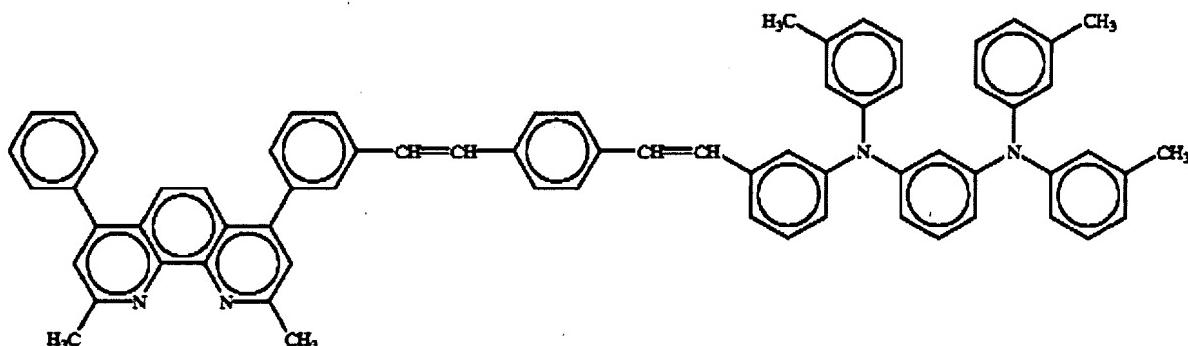
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

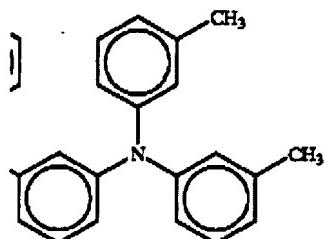
5. Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by Higashi et al., U.S. Patent Number 6,406,804.

Higashi discloses an organic electroluminescence device comprising a light emitting layer disposed between a pair of electrodes. Additionally, Higashi discloses a molecular compound with the structure

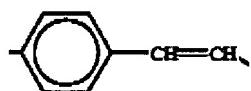
(7)



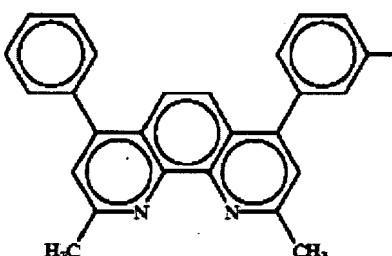
(see reference claim 5). The reference reads on the instant claims when



is an electron donor group;



is a conjugated bridging



element and

is an electron acceptor group (a fused cyclic

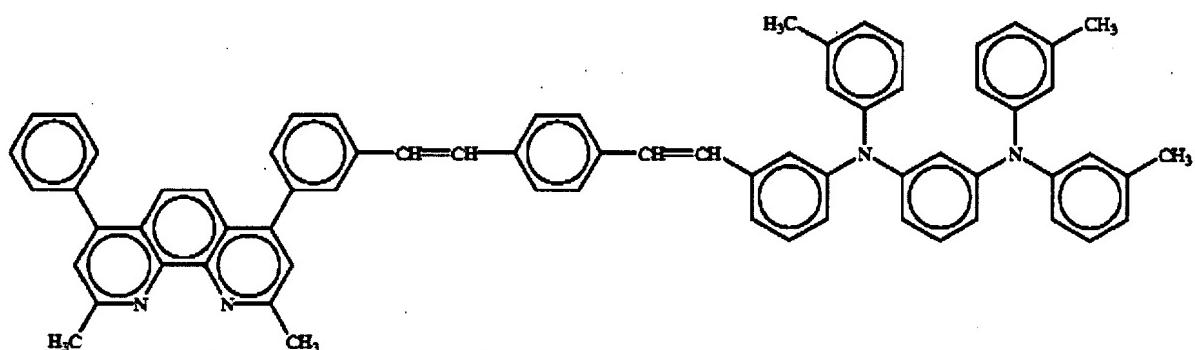
system).

6. Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by Higashi et al., U.S.

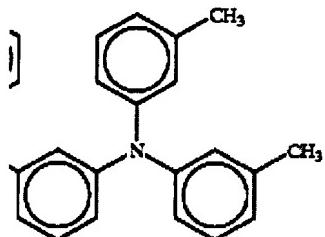
Pre Grant Publication 2002/0136924.

Higashi discloses an organic electroluminescence device comprising a light emitting layer disposed between a pair of electrodes. Additionally, Higashi discloses a molecular compound with the structure

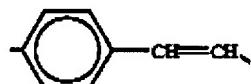
(7)



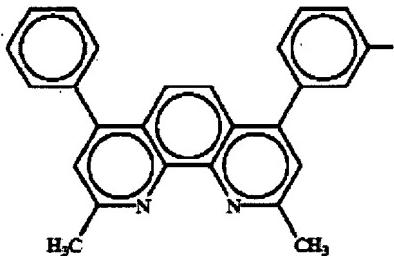
(see formula 7 on page 23). The reference reads on the instant claims when



is an electron donor group;



is a conjugated bridging



element and is an electron acceptor group (a fused cyclic system).

Claim Rejections - 35 USC § 103

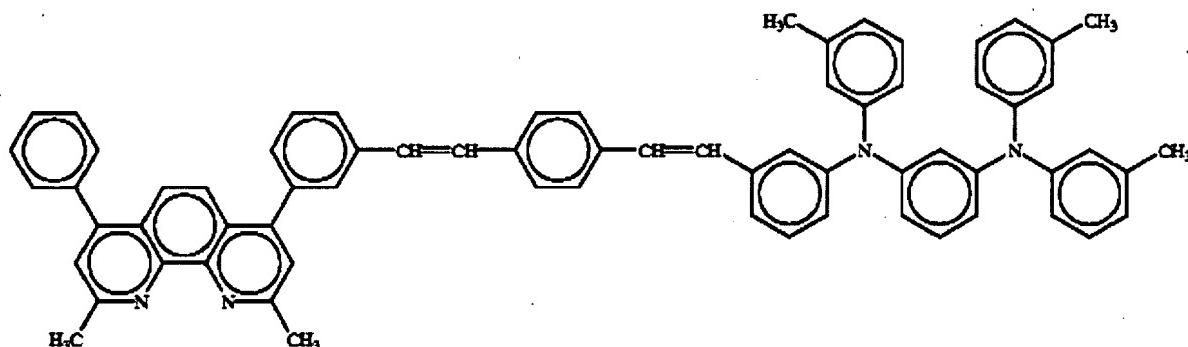
7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

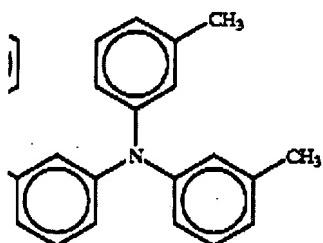
8. Claims 1, 4-11, 14, 17 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higashi et al., U.S. Patent Number 6,406,804 in view of Smith et al., U.S. Pre Grant Publication 2004/0263045.

Higashi discloses an organic electroluminescence device comprising a light emitting layer disposed between a pair of electrodes. Additionally, Higashi discloses a molecular compound with the structure

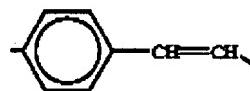
(7)



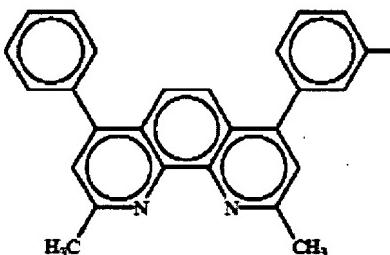
(see reference claim 5). The reference reads on the instant claims when



is an electron donor group;



is a conjugated bridging



element and

is an electron acceptor group (a fused cyclic

system). Higashi does not specifically disclose a photoluminescence-quenching device. Smith

discloses optoelectronic displays using photoluminescence quenching (see abstract).

Additionally, Smith discloses in paragraph 0021 that electroluminescent materials normally used in organic light emitting diodes are usually also photoluminescent and that the photoluminescence may be reduced or quenched by applying an electric field to the

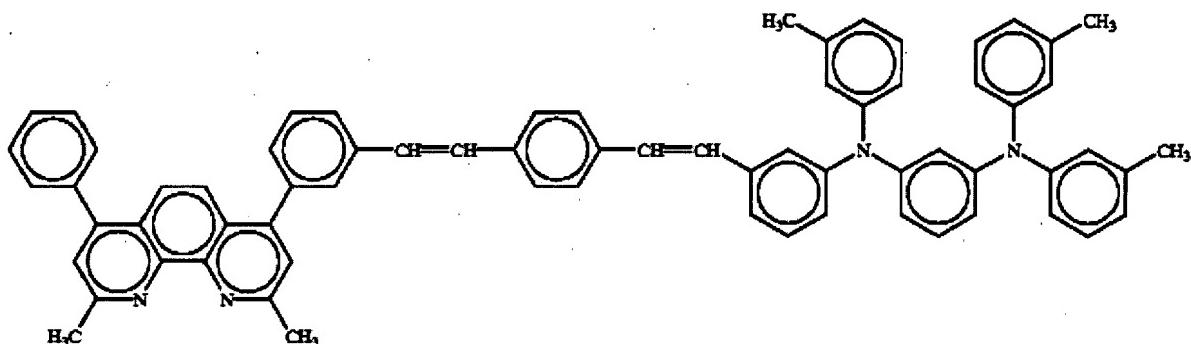
Art Unit: 1774

photoluminescent material. Also, Smith discloses that the suitable structures to quench photoluminescence include conventional OLED structures. The device in the Higashi reference has a conventional OLED structure. Therefore, it would have been obvious to one of ordinary skill in the art that the device used in the Higashi reference also operates as a photoluminescent quenching device.

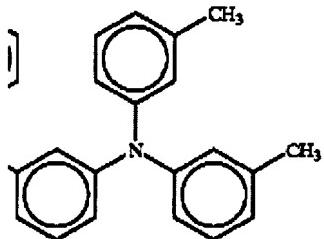
9. Claims 1, 4-11, 14, 17 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higashi et al., U.S. Pre Grant Publication 2002/0136924 in view of Smith et al., U.S. Pre Grant Publication 2004/0263045.

Higashi discloses an organic electroluminescence device comprising a light emitting layer disposed between a pair of electrodes. Additionally, Higashi discloses a molecular compound with the structure

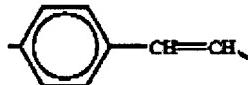
(7)



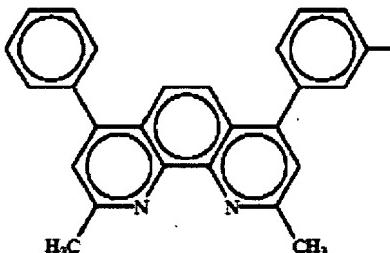
(see formula 7 on page 23). The reference reads on the instant claims when



is an electron donor group;



is a conjugated bridging



element and

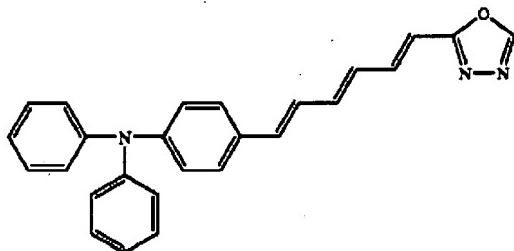
is an electron acceptor group (a fused cyclic

system). Higashi does not specifically disclose a photoluminescence-quenching device. Smith discloses optoelectronic displays using photoluminescence quenching (see abstract).

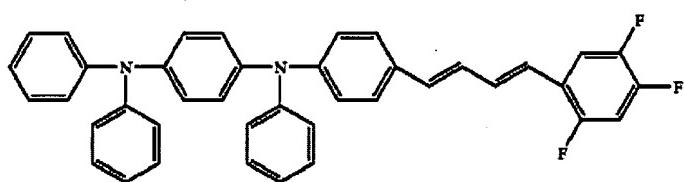
Additionally, Smith discloses in paragraph 0021 that electroluminescent materials normally used in organic light emitting diodes are usually also photoluminescent and that the photoluminescence may be reduced or quenched by applying an electric field to the photoluminescent material. Also, Smith discloses that the suitable structures to quench photoluminescence include conventional OLED structures. The device in the Higashi reference has a conventional OLED structure. Therefore, it would have been obvious to one of ordinary skill in the art that the device used in the Higashi reference also operates as a photoluminescent quenching device.

10. Claims 12-13 and 18-20 are allowed. The prior art does not provide for the recited chemical compound, further including the compound being selected from the group consisting of the following compounds of formulas 4a through 4c:

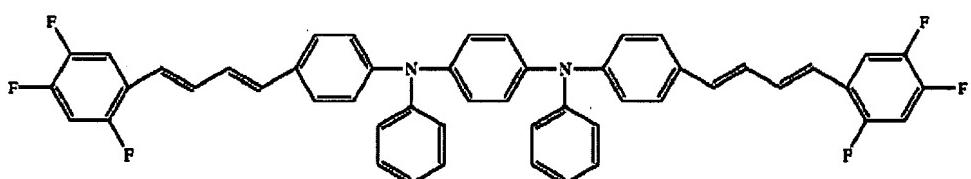
[Formula 4a]



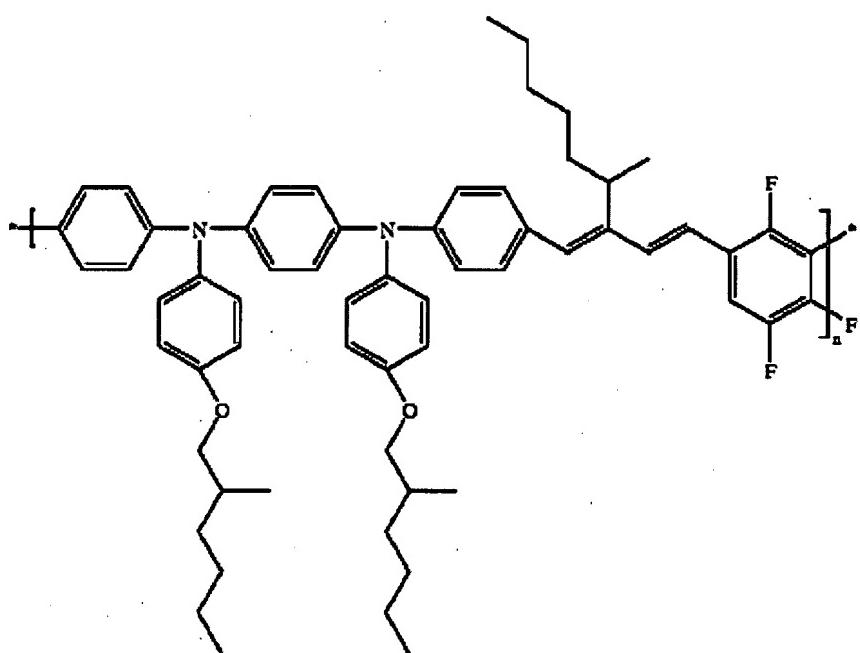
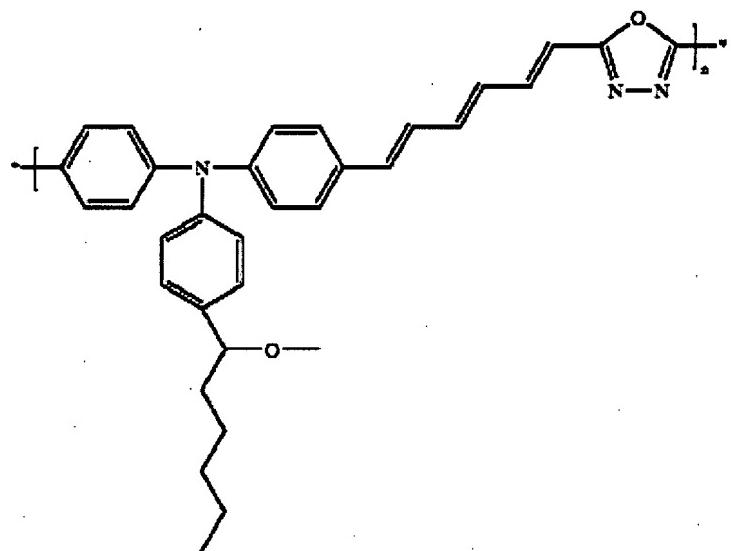
[Formula 4b]

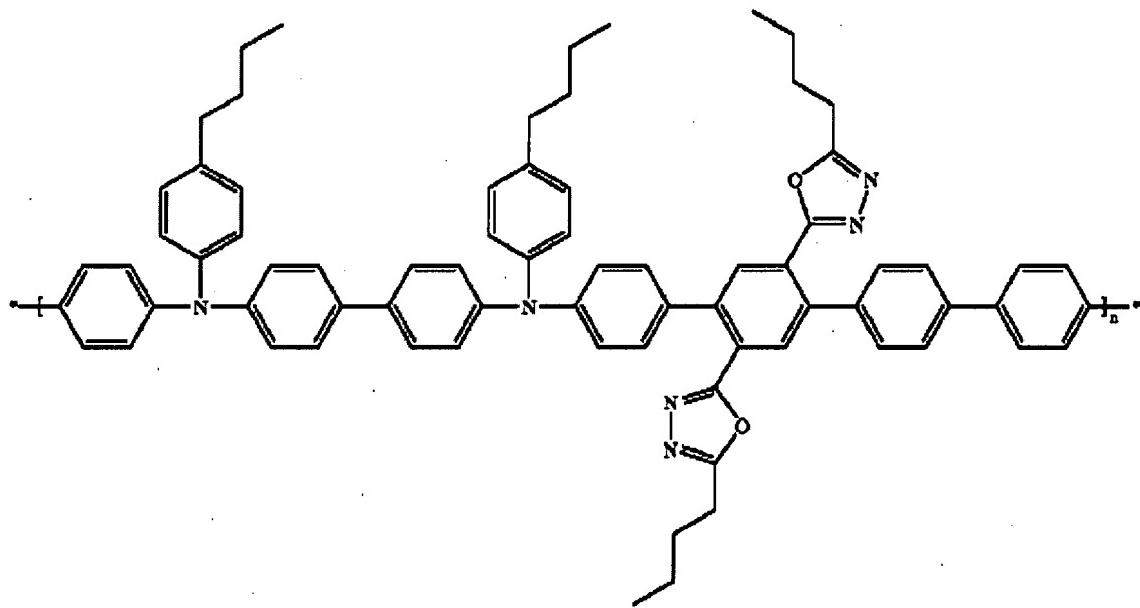


[Formula 4c]

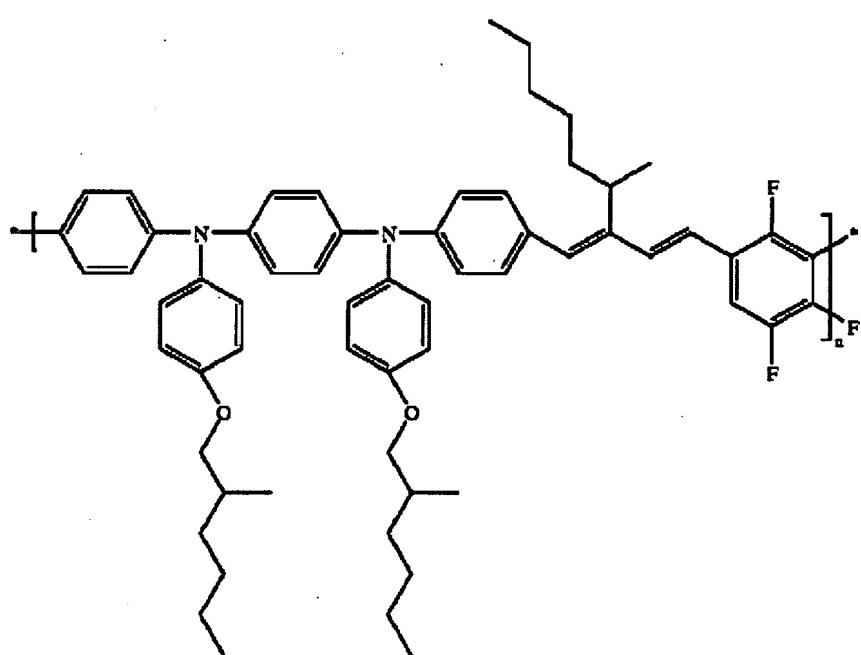
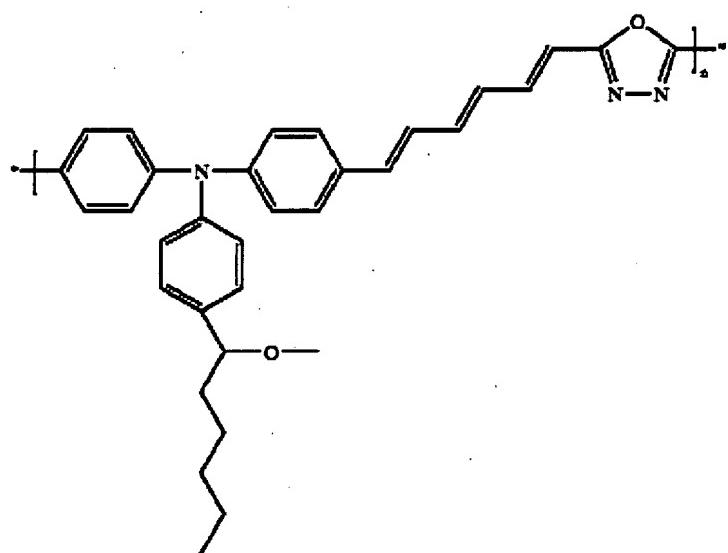


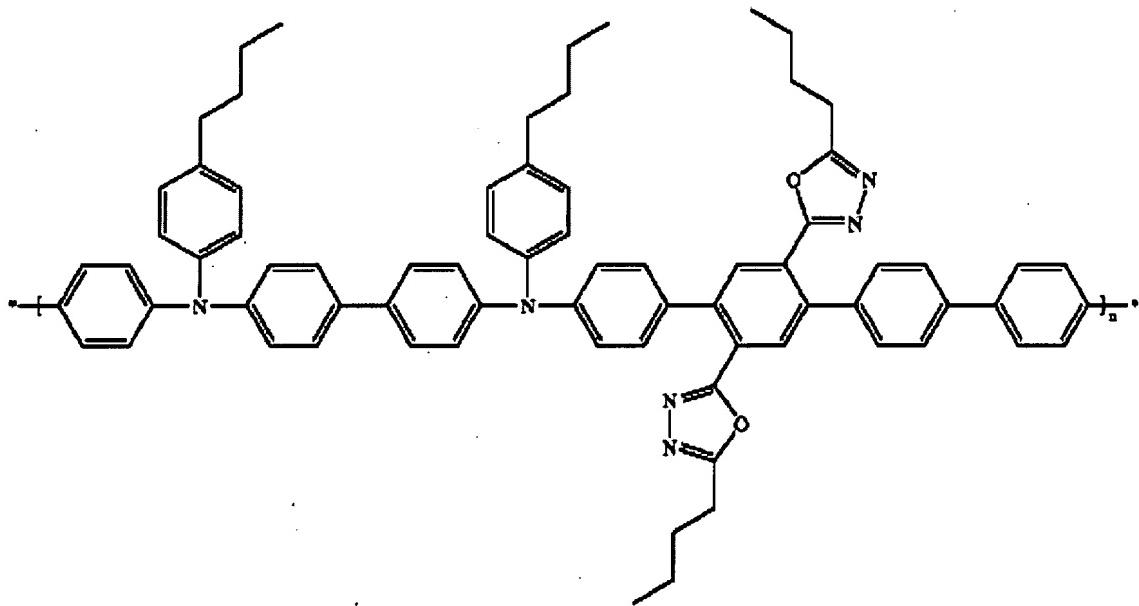
The prior art does not provide for the recited compound, further including the compound being selected from the group consisting of the following compounds of formula 5a through 5c:





wherein n is a number ranging from 100 to 2,000. Also, the prior art does not provide for the recited chemical compound, further including the conjugated bridging element is a polymer having a main chain and a branched or side chain having an alkyl group or an alkoxy group. The prior art does not provide for a photoluminescence quenching device comprising the recited chemical compound wherein the device comprises a layer of polyethylenedioxythiophene/polystyrenesulfonic acid and an emitter polymer layer having a material selected from the group consisting of the following compounds:





wherein n is a number ranging from 100 to 2, 000. Also, the prior art does not provide for a photoluminescence quenching device comprising the recited compound.

Response to Arguments

11. Applicant's arguments with respect to the instant claims have been considered but are moot in view of the new ground(s) of rejection.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

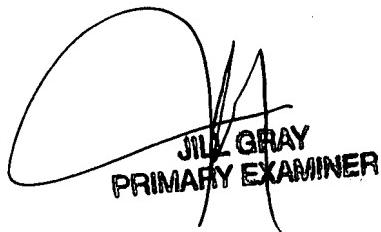
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

Art Unit: 1774

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (571)272-1530. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano, can be reached at (571) 272-1398. The fax phone number for the Group is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JILL GRAY
PRIMARY EXAMINER